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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,002	04/05/2001	Takeshi Miyashita	0378-0382P	3899
2292	7590	12/14/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			LAM, HUNG H	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,002

Applicant(s)

MIYASHITA ET AL.

Examiner

Hung H. Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10-20 is/are rejected.
- 7) ☒ Claim(s) 7-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04/05/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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5. Claim 9 recites the limitation "said reference period of time" in line two. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-4,6,10-12,14-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimizu (US-6,567,125).

Regarding claim 1, Shimizu discloses an image pickup control device for driving an image sensor comprising:

a photosensitive section (Fig. 5, CCD 6) in which a plurality of photosensitive devices are arranged for generating signal charges corresponding to incident light (photosensitive devices are inherent in CCD 6; col. 4, lines 11-19).

a plurality of vertical transfer paths for vertically transferring said signal charges (Fig. 5, vertical transfer paths are inherent in CCD 6).

a horizontal transfer path for horizontally transferring said signal charges transferred from said plurality of vertical transfer paths (Fig. 5, horizontal transfer paths are inherent in CCD 6); and

an outputting circuit for detecting said signal charges transferred from said horizontal transfer path and outputting electric signals corresponding to said signal charges (Fig. 5, Output Amplifier 62).

said image pickup control device comprising:

a driver for driving said image sensor (Fig. 5, Reading Control Circuit 66, Camera Control Unit 12; col. 4, lines 16-21).

a controller (Fig. 5, Camera Control Unit 12, CPU 30) for feeding a first control signal to said driver to thereby control an exposure time over which said image sensor generates the signal charges (col. 4, lines 16-17; col. 4, lines 50-58); and

a switching circuit (Fig. 5, Output Amplifier Power Source Circuit 68) for switching a power supply voltage for driving said outputting circuit in accordance with a second control signal and then feeding said power supply voltage to said outputting circuit (col. 4, lines 54-58).

said driver comprising a signal generating circuit for generating timing signals for causing said image sensor to transfer the signal charges, which are generated over the exposure time, to said outputting circuit via said plurality of vertical transfer paths and said horizontal transfer path (Fig. 5, Reading Control Circuit 66, Camera Control Unit 12; col. 4, lines 16-21).

said controller feeding said second control signal to said switching circuit for

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controlling said switching circuit in accordance with the exposure time (Fig. 5, Camera Control Unit 12, CPU 30; col. 5, lines 16-19; col. 6, lines 5-21).

Regarding claim 2, Shimizu discloses an image pickup control device, wherein the switching circuit (68) switches the power supply voltage from a first voltage for using the electric signals output from said image sensor as an image signal to a second voltage lower than said first voltage and applies said second voltage to said outputting circuit (col. 4, lines 55-58).

Regarding claim 3, Shimizu discloses image pickup control device, wherein the switching circuit (68) switches, immediately before the exposure time expires, the power supply voltage from the second voltage to the first voltage and applies said first voltage to said outputting circuit (col. 5, lines 14-26).

Regarding claim 4, Shimizu an image pickup control device, wherein the switching circuit (68) switches, when the exposure time expires, the power supply voltage from the second voltage to the first voltage and applies said second voltage to said outputting circuit (col. 4, lines 50-58; Power source 68 starts low, switch to high, and stay at low for the second exposure).

Regarding claim 6, Shimizu discloses an image pickup control device, wherein the driver causes the image sensor to discharge unnecessary charges when applied

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with the second voltage (col. 4, lines 55-58; Amplifier 62 operates at high power and returns to low power at exposure time; therefore, the transition causes amplifier 62 to discharge charges).

Regarding claim 10, Shimizu discloses an image pickup control device, wherein said controller comprises

a determining circuit (Fig. 5, Camera Control Unit 12, CPU 30) for determining an exposure value on the basis of the electric signals output from said image sensor (CCD 6) and controls the exposure time in accordance with said exposure value (col. 5, lines 16-19; col. 6, lines 5-22).

Regarding claim 11, Shimizu discloses an image pickup control device, wherein when a reference period of time expires since a start of exposure, said controller feeds said second control signal to said switching circuit (Fig. 5, Camera Control Unit 12, CPU 30, Output Amplifier Power Source Circuit 68; col. 4, lines 19-21; col. 6, lines 5-22).

Regarding claim 12, Shimizu discloses an image pickup control device, wherein after feeding said control signal (12, and 30) to said switching circuit (68), said controller restores an original drive voltage, which drives said outputting circuit, when the exposure time expires (col. 5, lines 14-32; col. 6, lines 5-22).

Regarding claim 14, Shimizu discloses a method of controlling an image sensor (CCD 6) comprising

a photosensitive section for generating signal charges corresponding to light incident to a photosensitive surface, transfer paths for transferring said signal charges (limitations are inherent from CCD 6), and

an outputting circuit (Fig. 5, A/D Converter 10) for detecting said signal charges transferred from said transfer paths (60) and outputting electric signals corresponding to said signal charges for thereby generating an image signal representative of a scene being picked up (Fig 5, Image Data Buffer 11).

said method comprising the steps of:

determining whether or not an exposure time of said photosensitive section is a preselected long exposure time (col. 4, lines 50-58; col. 5 lines 14-20).

driving, if the exposure time is the preselected long exposure time, said image sensor with a low voltage lower than a usual drive voltage (col. 4, lines 56-58); and

driving, when the signal charges generated in said photosensitive section are to be read out, said image sensor with said usual voltage instead of said lower voltage (col. 5, lines 19-26).

Regarding claim 15, Shumizu discloses a method, wherein if the exposure time is the preselected long exposure time, said outputting circuit is driven by said low voltage (col. 4, lines 50-58).

Regarding claim 16, Shumizu discloses a method, wherein if the exposure time is the preselected long exposure time, said low voltage is replaced with said usual voltage immediately before said exposure time expires (col. 5, lines 14-20).

Regarding claim 17, Shumizu discloses a method, wherein if the exposure time is the preselected long exposure time, said low voltage is replaced with said usual voltage when said exposure time expires (col. 5, lines 14-20).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shumizu in view of Steinberg et al. (US-6,151,073).

Regarding claim 5, Shimizu discloses an image pickup control device, wherein the controller comprises

a circuit wherein the driver (Fig. 5, Reading Control Circuit 66, Camera Control Unit 12; col. 4, lines 16-21) switches the power supply voltage from the second voltage to the first voltage under the control of said controller and applies said first voltage to said outputting circuit (Fig. 5, CPU 30, Camera Control Unit 12; col. 5, lines 14-26).

As to claim 5, the claim differs from Shimizu in that it further requires:

a circuit for controlling a bulb exposure for starting and ending the exposure time in accordance with an operator's command, and controls said driver on detecting the end of said exposure time. Although Shimizu fails to teach a circuit for controlling a bulb exposure time in accordance with an operator's command, Shimizu shows a keyboard input (Fig. 1, Keyboard 5), and an exposure-signal through the CPU 30 to open the shutter and start the exposure of CCD 6 (col. 4, lines 50-58).

In the same field of endeavor, Steinberg teaches an intelligent camera flash system wherein the flash energy is determined by the adequate exposure (Figs. 2 and 3). Steinberg further teaches that multiprocessor control the flash unit in accordance to the adequate exposure which activated by the shutter activator (Fig. 1, Multiprocessor 12, Shutter Activator 14, Flash Unit 26; col. 3, lines 66-67 – col. 4, lines 1-45). In light of the teaching from Steinberg, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the imaging pickup control device of Shimizu with an intelligent flash system disclosed by Steinberg. The modification thus provides an improved digital camera that determines optimum camera exposure parameters from a low energy flash prior to final flash (col. 2, lines 42-45).

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10. Claims 13, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shumizu in view of Kimura et al. (US-5,008,757).

Regarding claim 13, the claim differs from Shimizu in that it further requires:

a release switch for outputting a release signal representative of an operator's operation; and

a signal processor for processing the electric signals output from said image sensor; wherein said controller controls said driver in accordance with the release signal.

Although Shimizu fails to disclose a release switch, Shimizu teaches an exposure start signal which is inputted through the CPU 30 to control the shutter and CCD 6 (col. 4, lines 50-58).

In the same field of endeavor, Kimura teaches a shutter release switch, which signals the CPU to drive the diaphragm and shutter according to the exposure calculation value (col. 3, lines 55-61; col. 4, lines 1-5). In light of the teaching from Kimura, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the shutter switch of Kimura into the imaging pickup control device disclosed by Shumizu in order to provide a shutter control means in which the shutter switch signals the CPU to adjust the diaphragm and shutter in accordance to the predetermined exposure calculation value (col. 3, lines 58-60; col. 4, lines 1-5).

Regarding claims 18 and 19, Shumizu does not clearly disclose the method, wherein the exposure time is determined by automatic exposure control, or the exposure time is determined by a manual operation. However, the limitations are well known in the art as taught by Kimura.

In the same field of endeavor, Kimura teaches a method wherein the CPU sets the shutter speed to the longest exposure time for auto exposure mode and signals an out-of-range warning LED if the calculated exposure time is longer than the longest exposure time (col. 3, lines 32-36; col. 4, lines 37-43). Kimura further teaches that the shutter speed is not limited to the longest exposure time because of the nature of the manual mode (col. 3, lines 41-43). In light of the teaching from Kimura, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Shumizu by providing an automatic or manual operation disclosed by Kimura in order to provide an improved camera in which the exposure time is properly determined in automatic mode (col. 4, lines 56-65), or manual mode (col. 5, lines 1-3).

Regarding claim 20, Shumizu as modified by Taniguchi, discloses a method, wherein low voltage is replaced with said usual voltage after an expiration of the exposure time has been detected (Shumizu; col. 5, lines 14-20).

Allowable Subject Matter

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11. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 7, the following is a statement of reason for the indication of allowance: the prior art made of record and considered pertinent to the applicant's disclosure does not disclose nor fairly suggest the method of claim 7 further in combination with: **controller determines the exposure time in accordance with an exposure value for shooting a desired scene and feeds said second control signal to said switching circuit at a timing matching with said exposure time to thereby cause said switching circuit to drive said outputting means at a low voltage.**

Claim 8 is objected to as being dependent upon the objected claim 7.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Hynecek et al. (US-5,278,656) disclose an imaging system providing amplified electrical image signal with inhibited heat building for visual display input.

b) Edgar (US-5,452,048) discloses an idle curtain flash for filling flash photography and combining natural light and flash light.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung H. Lam whose telephone number is 703-305-8143. The examiner can normally be reached on Monday - Friday 8AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's primary's, NGOC YEN VU can be reached on 703-305-4946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HL

12/10/2004


NGOC-YENVU
PRIMARY EXAMINER